NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
LYNDON B. JOHNSON SPACE CENTER

JUSTIFICATION FOR OTHER THAN FULL AND OPEN COMPETITION PURSUANT TO 10 U.S.C. 2304(c)(1) and Federal Acquisition Regulation 6.302-1

Neutral Buoyancy Laboratory Space Vehicle Mockup Facility Operations Contract Extension

1. Introduction:

This document is a JOFOC prepared by the NASA Lyndon B. Johnson Space Center (JSC) to support a sole-source extension to the Neutral Buoyancy Laboratory (NBL)/Space Vehicle Mockup Facility (SVMF) Operations Contract (NSOC), NNJ10HD35C. This extension will provide the continued support of operations, training, mission planning, and maintenance of the NASA Human Space Flight (HSF) program for the International Space Station (ISS), Commercial Crew Program, and Orion Multi-Purpose Crew Vehicle (MPCV) operations. The estimated period of performance (POP) for this sole-source extension with Raytheon Technical Services Corporation (RTSC) is a two year base period of performance with two, one-year options. The estimated total contract value of this extension, including options, is estimated to be $108 million.

NSOC was awarded competitively to Raytheon Technical Services Company (RTSC) to provide operational and sustaining engineering support at the JSC on July 30, 2010. The contract was awarded for a base period of three years with two one year options. Both one year options were exercised with the POP extending through September 30, 2015.

2. The nature and/or description of the action being approved:

This justification provides the rationale for contracting by other than full and open competition for the continued acquisition of sustaining operational support for the NBL/SVMF with RTSC. This justification provides rationale to support a sole-source extension of the current NSOC contract for an additional two years plus two one year options. The contents of this justification are in accordance with the Federal Acquisition Regulation (FAR) 6.302.

3. Description of the supplies or services required, include an estimated value:

NSOC provides training and operational support at two unique NASA facilities: the NBL and the SVMF. The NBL and SVMF both support crew training and development activities that are critical to continued safety and success of the ISS mission, Commercial Crew Program, and MPCV. These unique facilities are available 24/7 for critical training and mission support operations, maintenance and projects to support the dynamic nature of current and future space programs.

The purpose of the NBL is to support the JSC functions for:

1) Astronaut training – training of personnel for the conduct of Extravehicular activity (EVA) and Intra-vehicular activity, either as crew members or members of the ground team.

2) Real-time mission support – supporting real-time contingencies that occur on-orbit to ISS crews and hardware.
3) Timeline evaluations – establishing EVA timelines for general program planning.
4) EVA procedure development and verification – developing procedures used by the crew members to accomplish on-orbit extravehicular tasks and objectives.
5) Flight hardware design, development, and validation – developing and verifying the functionality and operability of hardware to be assembled, maintained, reconfigured, or replaced by the crew members on-orbit via EVA.
6) Scuba training and evaluations – providing the training and resources necessary to participate in underwater evaluations.
7) Public Affairs – facilitating the communication of the JSC mission to the public with tours visiting the building and public affairs events being conducted in the facility.
8) Sustaining engineering – providing project planning and estimation, requirements definition, discrepancy analysis and anomaly resolution, system safety, and specialty engineering.
9) Maintenance and sustaining engineering of all of the current and future mockups and hardware required to support the operations detailed above.

The purpose of the SVMF is to support the JSC functions for:

1) Space flight training - training of personnel either as crew or ground team.
2) Real-time mission support for on-orbit contingencies.
3) Mission development – creating products for the development of future mission activities.
4) Vehicle sustaining engineering – supporting development of new or modified equipment for flight vehicles.
5) Developmental engineering analysis – providing tools, facilities, and personnel for the conduct of engineering tests.
6) Public affairs – facilitating the communication of the JSC mission to the public with tours visiting the building and public affairs events being conducted on the floor and occasionally inside the mockups in the facility.
7) Sustaining engineering – providing project planning and estimation, requirements definition, discrepancy analysis and anomaly resolution, system safety, and specialty engineering.

Estimated Cost

The estimated cost for the two year NSOC contract extension and both one year options is $108 million.

Period of performance

The proposed period of performance for the NSOC extension is October 1, 2015, through September 30, 2017, plus two one year options for services through September 30, 2019.

4. Statutory authority permitting other than full and open competition:

The statutory authorities for proceeding with this acquisition under JOFOC are 10 U.S.C. §2304(c) (1) and 10 U.S.C. §2304(d) (1) (B) as contemplated by the provision of FAR 6.302-1(a) (2) (iii), which

states that full and open competition need not be provided when the services required by the Agency may be deemed to be available only from the original source in the case of a follow-on contract for the continued provision of highly specialized services. The provision also states that this exception is applicable when it is likely that award to any other source would result in unacceptable delays in fulfilling the Agency's requirements.

5. A demonstration that the proposed contractor's unique qualifications or the nature of the acquisition requires use of the authority cited:

NSOC provides highly specialized services for NASA JSC's Mission Operations Directorate (MOD). NSOC supports mission operations that are critical to maintaining safe HSF operations. RTSC's experience provides RTSC with intimate knowledge of the ISS Program and space operations services that could not be replicated by another company without incurring disruption of mission critical support and unacceptable delays. Any disruption to schedules or operations at these two facilities would adversely impact critical deadlines and disrupt mission operations and impact the safety of the ISS and its crews. Re-competition of the requirement for these services would result in disruption in the provision of these highly specialized services and unacceptable delays in fulfilling the Agency's need for this mission critical support. During the extension period, only one responsible source can perform all of the highly specialized services NASA requires without unacceptable delay in the availability of service and adverse impact to impact on HSF operations.

Changes in NASA mission requirements following retirement of the Space Shuttle Program necessitated substantial reductions in the scope of the current NSOC contract. This reduction in scope substantially reduced the availability of contractor employees with the skill and experience needed to safely operate the NBL and SVMF. Contract transition at the end of the current NSOC contract in 2015 would destabilize the current NSOC workforce and result in the loss of these critical skills and specialized experience. In addition, aging ISS hardware is expected to increase the need for timely and flexible response to real time on-orbit hardware failures. ISS sustaining operations requires that MOD maintain 24/7 capability to troubleshoot or modify critical systems in a dynamic operations environment.

Any contractor other than RTSC would require an extensive learning period before full NBL and SVMF operations could resume and create an unacceptable delay in the continuous availability of highly specialized services. To minimize the risk to ongoing human spaceflight operations, it is essential to avoid any disruption or any delay in NSOC services such as enriched oxygen breathing gas production (Nitrox), Life Support systems for submersed space-suited subjects, hyperbaric operation and maintenance, human-rated Robotics systems, Micro-Gravity simulation, and integrated audio, video and computer network systems tied to ISS simulation to generate emergency scenarios. Similarly, it is critical to maintain SVMF operation, maintenance, and modification capability for two micro-gravity simulators and a complex audio, video and computer network tied to emergency simulation. These systems must be readied for instructor and crew activities on a very tight schedule and to exacting standards. Any deviation to configuration can result in negative crew training and the inability of a mission to be performed in a timely and safe manner.

Training activities at the NBL are critical to MOD. This uninterrupted 24/7 support is essential for NASA to maintain its mission critical capacity for troubleshooting or modifying critical systems in a

dynamic operations environment. NSOC requires certified and highly trained safety, utility, and reconfiguration divers. The loss of the experienced resources would cause delays in meeting critical repairs or upgrades that will impact training and real time mission support. On average it takes six months to train a utility diver and between six months to two years for an engineer. The length of training for the engineer is dependent on the system. The loss of the unique capabilities in these facilities could cause two distinct problems. First, excessive down time would cause astronauts to not get critical nominal EVA training. Rescheduling of missed training events could not occur due to the non-flexible launch schedules of the crews. Second, the hardware and procedure development that normally would occur in the facilities during an on-orbit emergency would not transpire. In both cases the delay in the facilities to meet requirements will force risk onto the ISS and crew that normally would have been discovered and mitigated on the ground at the two facilities.

RTSC is the only responsible source that can perform all of the highly specialized services. The NBL and SVMF cannot be taken offline or have a reduction in capability to perform mission critical and on-orbit mission support and anomaly resolution.

6. A description of the efforts made to ensure that offers are solicited from as many potential sources as practicable:

A synopsis for this effort was issued on the NASA Acquisition Internet Service on May 7, 2014. The synopsis closed on May 22, 2014, and no responses were received.

7. Determination by the Contracting Officer that the anticipated cost to the Government will be fair and reasonable:

Upon approval of this justification, a Request for Proposal (RFP) will be issued to RTSC. The proposal will be evaluated and negotiated to obtain a fair and reasonable cost. To accomplish this, in accordance with NASA FAR Supplement 1815.404-2, a detailed NASA cost and price evaluation will consider actuals incurred under the previous contract, learning experience, technical and productions analysis, and subcontract proposal analysis as well as any information that can be efficiently obtained from the Defense Contract Management Agency or the Defense Contract Audit Agency. Also, in accordance with FAR 15.403-4, RTSC will be required to execute a Certificate of Current Cost or Pricing Data when a fair and reasonable price based upon this proposal is agreed upon.

8. Description of the market survey conducted, and the results, or a statement of the reasons a market survey was not conducted:

Market research indicates that RTSC is currently the only viable source that can perform all of the highly specialized services NASA requires under NSOC through the proposed extension period. Most notably, a synopsis was published and no responses were received from other sources stating they could provide these services during the period covered by the contemplated non-competitive extension.

The complexity of NSOC requirements cannot be fulfilled by commercial or non-developmental services.

9. Other facts supporting the use of other than full and open competition:

In addition to the fact RTSC is the only responsible source that provides the NSOC services at the end of the current contract without causing delays or disruptions to critical NBL or SVMF operations, NASA expects that NBL and SVMF requirements will evolve and mature substantially during the extension resulting in a far more accurate scope of work that will better facilitate a future contract competition.

In light of these circumstances, it is in the best interest of the Government for JSC to contract with RTSC under the NSOC through September 2017, with two one year options to September 30, 2019.

10. Sources, if any, that expressed an interest in writing in the acquisition:

A synopsis for this effort was issued on the NASA Acquisition Internet Service on May 7, 2014. The synopsis closed on May 22, 2014, and no responses were received. As described in Item 7 above, upon approval of this justification, a RFP will be issued to RTSC. NASA will evaluate RTSC's proposal and attempt to negotiate a fair and reasonable cost.

11. Statement of the actions taken to remove or overcome any barriers to competition before any subsequent acquisition for the supplies or services required:

NASA intends to conduct a future competition of JSC's NSOC requirements following this sole-source extension. This strategy positions NASA in the best posture to ensure the availability of essential mission services in support of the continuous and uninterrupted operations of the ISS Program during the sole-source extension period. During the extension, the NSOC contractor will have time to expand the capabilities within the post-shuttle workforce profile to avoid unacceptable work delays. Also, NASA anticipates that within two to four years of the end of the current NSOC contract, development and testing requirements for the Commercial Crew and MPCV Programs will be better defined and on-orbit support requirements for the ISS will be better understood. These NASA Programmatic developments will enable a more accurate assessment of the future NBL and SVMF facility support requirements. Following this extension, NASA anticipates that NBL and SVMF requirements will be better defined, resulting in a more accurate scope of work that is sufficient to facilitate a future contract competition.